

### REMARKS

Reconsideration of the rejections set forth in the Office action mailed April 12, 2004 is respectfully requested. Claims 5-6, 10, 19, and 22 are now pending in the application.

#### I. Amendments

Independent claim 6 is amended to change the language "one or more antisense morpholino oligomers" to "an antisense morpholino oligomer". Claim 6 is also amended to recite an indicator of HSC differentiation that is described and demonstrated in the specification (e.g. page 27, lines 5-7).

Dependent claims 3 and 21 are cancelled.

No new matter is added by any of the amendments.

#### II. Allowable Subject Matter

The subject matter of claims 19 and 22 was deemed allowable (page 6 of Office Action).

#### III. Rejections under 35 U.S.C. §112, Second Paragraph

Claims 3 and 6 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite.

Independent claim 6 has been amended to change the language "one or more antisense morpholino oligomers", which was appropriate when the claim previously recited several different base sequences, to "an antisense morpholino oligomer".

Dependent claim 3, which recited a range of lengths of oligomers, has been cancelled.

#### IV. Rejections under 35 U.S.C. §112, First Paragraph

Claims 3, 5, 6, 10 and 21 were rejected under 35 U.S.C. §112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to make and use the invention without undue experimentation.

As noted above, claim 21 has been cancelled. The applicants reserve the right to pursue the subject matter of this claim in continuing applications.

With respect to independent claim 6, the Examiner stated that the specification was enabling for "the *in vitro* decrease in the number of high proliferative potential colony forming cells...relative to the number of clonogenic cells", but not for "a method of promoting hematopoietic stem cell differentiation (e.g. into an array of distinctly defined, differentiated populations of progenitor cells)".

According to the interpretations of the term "differentiation" that are used in the Office Action, "differentiation" of HSC requires differentiation (i) "into an array of distinctly defined, differentiated populations of progenitor cells" (page 2 of Office Action) or (ii) "into various and defined pluripotent cells" (page 4 of Office Action).

The second interpretation would clearly be inappropriate, since the term "pluripotent" refers to the capacity of the undifferentiated HSC to differentiate into a plurality of possible cell lineages (e.g. page 6, lines 6-7 of the specification).

The first interpretation includes the requirement that the differentiated cells be "distinctly defined". However, this limitation is not recited in the applicants' claims.

The specification shows, and claim 6 as amended recites, that treatment of HSC with the antisense oligomer recited in the claim "results in a decrease in the number of high proliferative potential colony forming cells (HPP-CFC) relative to the number of clonogenic cells, as compared to stem cells not contacted with said oligomer" (as shown in Example 2 and illustrated by the data shown in Table 2 and in Fig. 3). As stated in the specification at page 27, line 6, this result is indicative of "differentiation or maturation of hematopoietic stem cells", which is what is being claimed.

Accordingly, the specification is clearly enabling for "a method of promoting hematopoietic stem cell differentiation *in vitro*", as claimed. The applicants therefore request that the rejection of claims 5, 6, and 10 be withdrawn.

V. Conclusion

In view of the foregoing, the applicant submits that the claims now pending are now in condition for allowance. A Notice of Allowance is, therefore, respectfully requested.

If in the opinion of the Examiner a telephone conference would expedite the prosecution of the subject application, the Examiner is encouraged to call the undersigned at (650) 838-4403.

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Respectfully submitted,



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